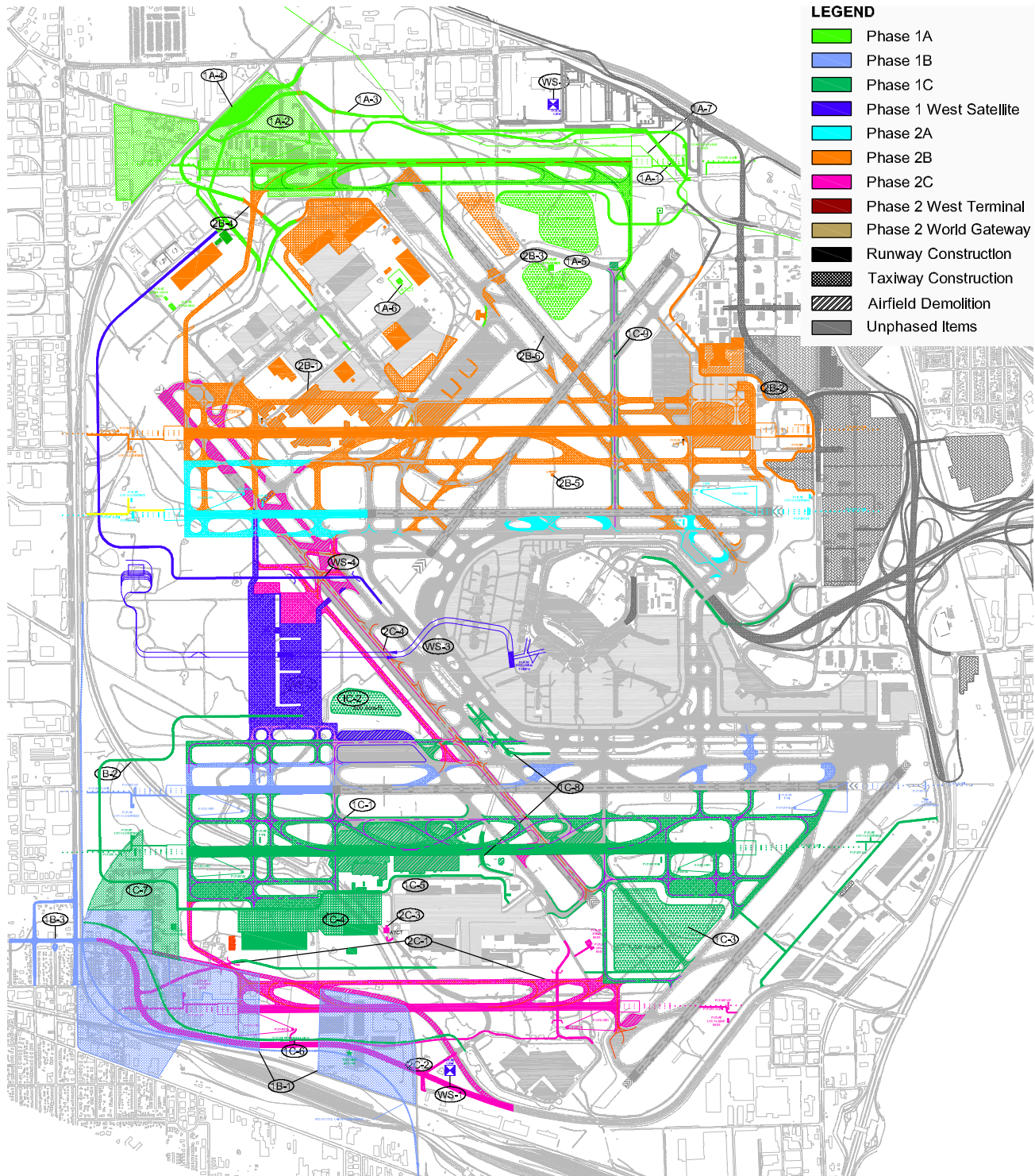


Source: Ricondo & Associates, Inc.; Martinez Corp. Aerial Photography (Nov. 2001);
Department of Aviation Airport Management and Records
Prepared by: Ricondo & Associates, Inc.

Exhibit VII-6



Implementation Phase 2B

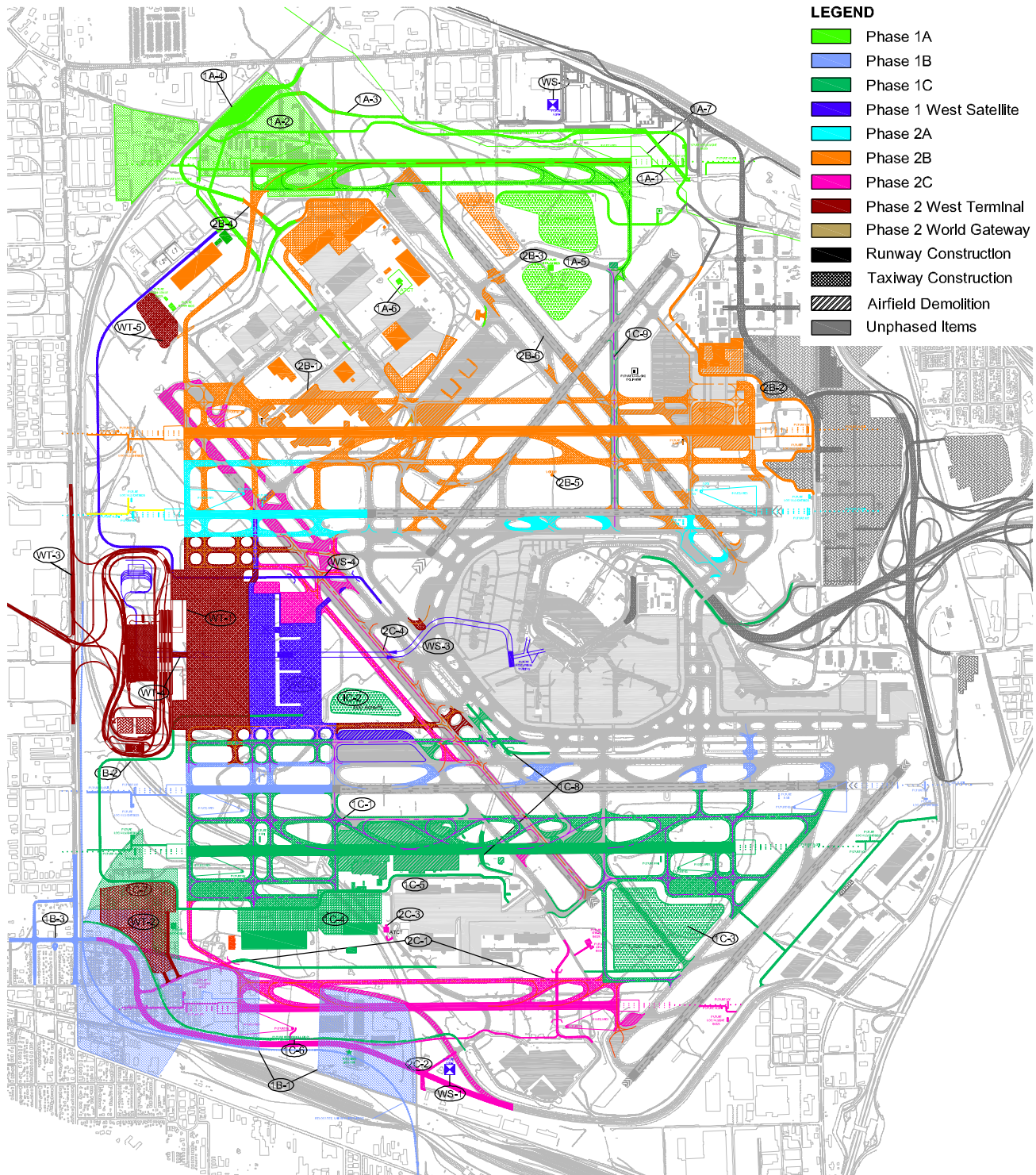


Source: Ricondo & Associates, Inc.; Martinez Corp. Aerial Photography (Nov. 2001);
 Department of Aviation Airport Management and Records
 Prepared by: Ricondo & Associates, Inc.

Exhibit VII-7

0 3000 ft.

Implementation Phase 2C

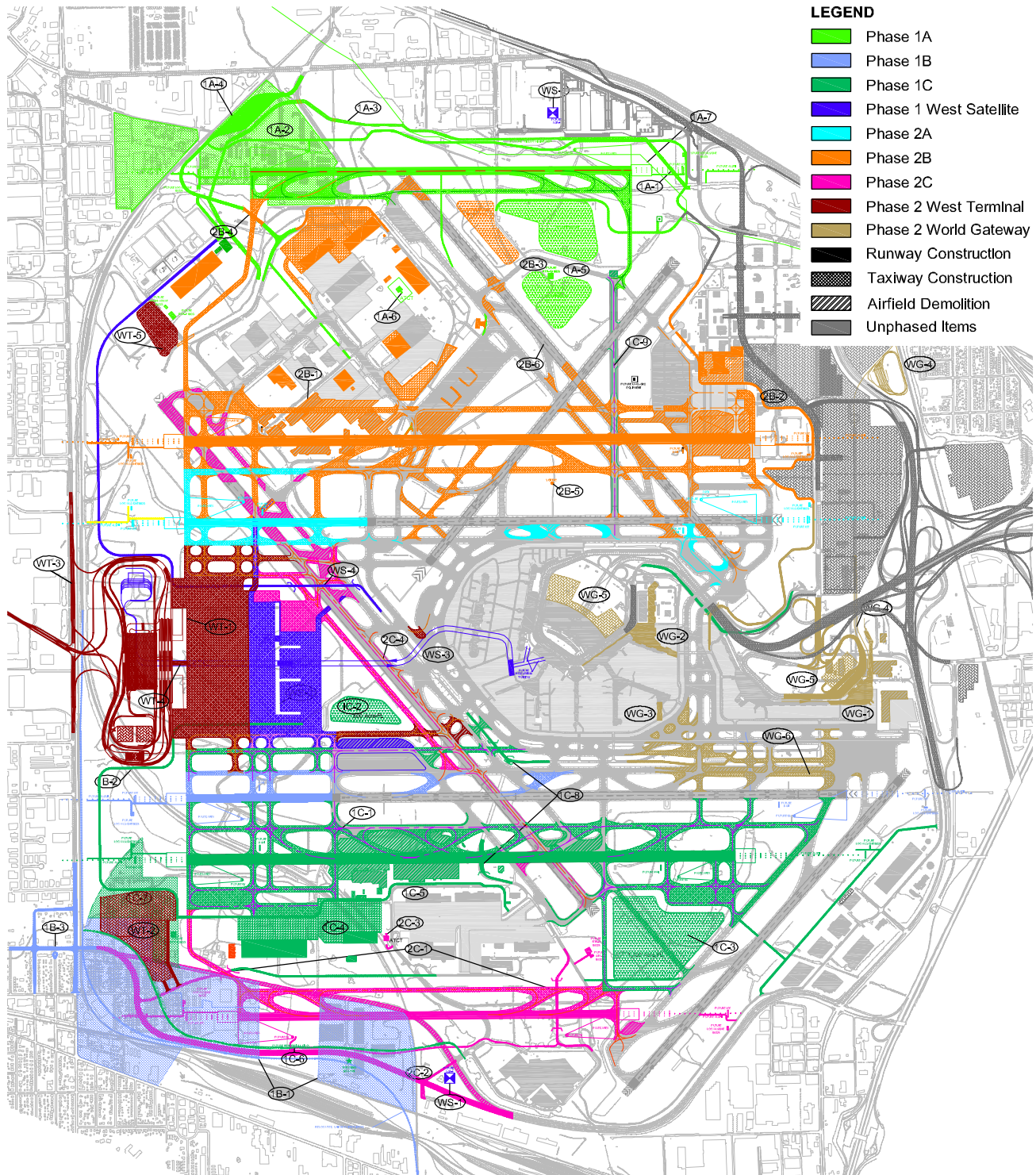


Source: Ricondo & Associates, Inc.; Martinez Corp. Aerial Photography (Nov. 2001);
 Department of Aviation Airport Management and Records
 Prepared by: Ricondo & Associates, Inc.

Exhibit VII-8

0 3000 ft.

Implementation Phase 2 West Terminal



Source: Ricondo & Associates, Inc.; Martinez Corp. Aerial Photography (Nov. 2001);
 Department of Aviation Airport Management and Records
 Prepared by: Ricondo & Associates, Inc.

Exhibit VII-9

0 3000 ft.

Implementation Phase 2 World Gateway

- *Phase 1A-2, Northwest Area Land Acquisition:* Land acquisition efforts for the north airfield focus on the northwest area of the Airport to allow for the construction of Runway 9L-27R. Existing facilities in this acquisition area must be demolished prior to the start of west end runway construction, the realignment of Mount Prospect Road, and relocation of security Guard Post #1.
- *Phase 1A-3, Willow Creek Realignment:* In order to avoid constructing the western half of Runway 9L-27R over the creek, realignment of the creek is necessary. The section designated to be realigned will reroute the creek round the Runway 9L end inside the runway OFA. In order to meet FAA runway OFA requirements, this section will be covered. Other sections of the realigned creek will be enclosed by vertical-walled channels.
- *Phase 1A-4, Northwest Hangar Area Facilities Relocation:* In order to construct the western half of Runway 9L-27R, relocation of several Airport facilities will be necessary, including the Explosive Chamber (Building #706) and the DOA Communications Service Center (Building #701). Each facility will be replaced in-kind, based on available space around the north airfield. Relocation of security Guard Post #1 guardhouse (Building #700) and the entrance roadway from Mount Prospect Road will also require relocation northwest of their current location.
- *Phase 1A-5, North Detention Basin Expansion:* Construction of Runway 9L-27R and related facilities will increase the north airfield impervious area and, therefore, will require additional detention basin volume. This will be accommodated by combining and expanding the two existing basins south of Taxiway U to an ultimate capacity of 680 acre-feet. Construction of Runway 9L-27R will not require modification to the flood control basin (Structure 140), but will require modification of the intake and outflow infrastructure due to the relocation of Willow-Higgins Creek. The flood control basin capacity will remain at 1,150 acre-feet.
- *Phase 1A-6, North ATCT:* Activation of new Runway 9L-27R will require the construction of a north Airport Traffic Control Tower (ATCT). The Tower will be located in the Northwest Hangar Area on an existing surface parking lot between the United Airlines Service Center (Building #710) and the American Airlines Maintenance Hangar 1 (Building #727). The height of the Tower is approximately 264 feet, which will be capable of controlling all runways and taxiways on the north side of the Airport.
- *Phase 1A-7, JAWA Water Main Realignment:* Currently, a Joint Action Water Agency (JAWA) 90-inch diameter water main crosses under the Airport north of the flood control basin. The structural integrity of the pipe will not accommodate the movement of construction equipment and, therefore, will require realignment prior to construction of Runway 9L-27R.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with Runway 9L-27R.

Phase 1A involves the following operational impacts:

- *Runway 14L-32R:* Erection of the north Airport Traffic Control Tower will require the displacement of the Runway 14L arrival threshold to protect the Instrument Landing System (ILS) CAT I missed approach surface. Intermittent and nighttime closures of Runway 14L-32R will be required to accommodate the displacement of the arrival threshold approach lighting system and realign the associated navigational aids. Runway 14L-32R will be shortened to approximately 8,000 feet during the majority of this work. Additionally, intermittent closures of the runway will occur during construction off the end of the Runway 14L threshold.
- *Runway 14L:* The runway will experience limited CAT II/III interruptions.
- *Runway 32R:* The runway will experience an interruption in CAT I capability during the construction season, but will be reactivated during the winter season.

The following operational assumptions were assumed for Phase 1A:

- CAT II/III capability is scheduled to be available on existing Runway 27L (future Runway 28R) and existing Runway 27R (future Runway 27L) before the start of Phase 1A. CAT II/III capability will be restored to Runway 14L, at the displaced arrival threshold, as early in the construction phase as possible.
- Full departure length on Runway 14L-32R will be restored upon completion of the new Runway 9L-27R. The arrival length of Runway 14L will be approximately 8,000 feet until decommissioning of the runway occurs after Phase 2B.
- Runway length of 13,000 feet is available on Runway 14R-32L at all times.

7.1.2 Phase 1B – Runway 10L-28R Extension

Phase 1B encompasses the construction of an extension to existing Runway 9R-27L and associated taxiways to produce future Runway 10L-28R. The ultimate measurements of Runway 10L-28R will be 150 feet wide and 13,000 feet long. In addition to the runway and taxiway construction, the major components associated with Phase 1B, depicted in Exhibit VII-2, include:

- *Phase 1B-1, Southwest Area Land Acquisition:* Land acquisition efforts for the south airfield focus on the southwest area of the Airport to allow for the realignment of the Union Pacific Railroad and the reconstruction of the Irving Park Road/York Road intersection. Existing facilities in this acquisition area will be demolished prior to the railroad and roadway intersection construction.
- *Phase 1B-2, Railroad Realignment:* In its current alignment, the Union Pacific Railroad is intersected by future Runway 10C-28C, future Runway 10R-28L, and critical aeronautical surfaces associated with the Runway 10L-28R extension. A segment of the rail line in the southwest corner of the Airport will be relocated around the future airfield and associated aeronautical surfaces.
- *Phase 1B-3, Irving Park Road/York Road Intersection Reconstruction:* The relocation of the Union Pacific Railroad, in combination with the existing alignment of the Canadian Pacific Railroad and its at-grade intersection with York Road, requires the reconstruction of the Irving Park Road/York Road intersection. The intersection will become grade-

separated, with Irving Park Road depressed beneath York Road and the Railroad. Although this work will be coordinated with the OMP, it is not under the jurisdiction of the City of Chicago.

- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with the new runway extension construction.

Phase 1B involves the following operational impacts:

- *Runway 10L-28R:* The runway will experience nighttime and possible 24-hour closures to accommodate construction of the runway extension and taxiways.
- *Runway 28R (existing Runway 27L):* CAT II/III approaches will not be available during the construction.
- *Runway 10L-28R:* The runway is expected to experience an increase in the CAT I approach minimums during construction, because the approach light system and threshold light bar is expected to be out of service.
- *Runway 22R:* The runway will experience an interruption of CAT I capability during the relocation of the Runway 22R localizer antenna.
- *Runway 14R-32L:* The runway will experience nighttime closures to accommodate construction of one of the new future Runway 10L high-speed exit taxiways.

The following operational assumptions were assumed for Phase 1B:

- CAT II/III capability is available on Runway 14R and Runway 14L (CAT II/III capability to be restored to the displaced arrival threshold of Runway 14L).
- CAT II/III capability is available on existing Runway 27R.
- CAT II/III capability will be restored to future Runway 28R threshold upon completion of the runway extension construction.
- Runway length of 13,000 feet is available on Runway 14R-32L at all times.
- Runway departure length of 10,000 or more will be available on Runway 14L-32R and 14R-32L or extended future Runway 10L-28R (existing Runway 9R-27L).

7.1.3 Phase 1C – Runway 10C-28C

Phase 1C encompasses the construction of future Runway 10C-28C and associated taxiways that, when activated, will replace existing Runway 18-36 (currently temporary Taxiway GG). The ultimate measurements of Runway 10C-28C will be 200 feet wide and 10,800 feet long. Upon commissioning of future Runway 10C-28C, existing Runway 18-36 will be permanently decommissioned and converted to taxiway status. In addition to the runway and taxiway construction, the major components associated with Phase 1C, depicted in Exhibit VII-3, include:

- *Phase 1C-1, St. Johannes Cemetery Relocation:* Construction of Runway 10C-28C will require the relocation of the St. Johannes Cemetery to an off-Airport location.
- *Phase 1C-2, Central Detention Basin Expansion:* The increase in impervious area due to airfield construction and the reconfiguration of the South Detention Basin (described below in Phase 1C-3) will require additional storm water detention volume in the Central Detention Basin. The existing detention basin near the future West Terminal Complex will be enlarged and reconfigured to accommodate the additional storm water runoff.
- *Phase 1C-3, South Detention Basin Relocation & Expansion:* The South Detention Basin (existing Lake O'Hare) will be reconfigured to allow construction of Runway 10C-28C and adjacent taxiways and hold pads. Additionally, the increase in impervious area resulting from the South Airfield construction generates more storm water runoff and, therefore, storage demand. The reconfiguration of this storm water detention facility will increase its storage volume.
- *Phase 1C-4, Resthaven Cemetery Relocation:* The relocation of cargo facilities in the South Cargo Area impacted by Runway 10C-28C and associated taxiways will require the relocation the Resthaven Cemetery to an off-Airport location.
- *Phase 1C-5, Cargo Facilities Relocation:* In order to construct the central portion of Runway 10C-28C, relocation of several South Cargo Area facilities will be necessary. The buildings to be relocated include the United Airlines Cargo Building (Building #610), FedEx Metroplex Building (Building #611), Air Cargo Simulation Facility (Building #603), South Airfield Lighting Vault (Building #604), Fueling Station (Building #606), Electrical Utilities (Building #608), Federal Express Guardhouse (Building #619), Federal Express Fueling Station (Building #620), and the Federal Express Maintenance Building (Building #621). Each facility will be replaced in-kind, based on available space around the southwest airfield. Additional infrastructure and ground transportation work to maintain landside access to these facilities will also be undertaken during this process.
- *Phase 1C-6, Bensenville Ditch Realignment:* The construction of Runway 10C-28C and future Runway 10R-28L and relocation of the South Cargo Area buildings will require relocation of Bensenville Ditch. The ditch will be realigned from a point near the crossing beneath the Canadian Pacific Railroad, routed between future Runway 10R-28L and future relocated Irving Park Road, joining the former channel near the U.S. Post Office facility.
- *Phase 1C-7, Additional Southwest Land Acquisition:* Continued land acquisition efforts in the southwest area of the Airport will be required to meet FAA Runway Protection Zone (RPZ) requirements for the approach to Runway 10C.
- *Phase 1C-8, Tunnel Extension and Related Infrastructure:* In order to sustain the service road connection between the Terminal Core Area and the South Cargo area and meet FAA Runway Safety Area (RSA) requirements for Runway 10C-28C, extension of the south service road tunnel will be required. In addition to the extension, a new service road tunnel will be constructed beneath the newly constructed east-west taxiway north of existing Taxiway M. This new taxiway is required to be activated simultaneously with Runway 10C-28C and connects between the intersection of the A11/12 taxiway island and the existing Runway 9R Hold Pad, near the north end of the existing tunnel. Demolition of Taxiway T10 between Taxiway B and T is also required to accommodate

this new tunnel. Upgrade of the existing pump station and ventilation facilities will also be necessary to support the tunnel extension.

- *Phase 1C-9, Decommissioning of Runway 18-36:* Runway 18-36 is currently designated as temporary Taxiway GG; however, reactivation of the runway will occur prior to commissioning of Runway 10C-28C. Permanent decommissioning of Runway 18-36 will occur upon completion and commissioning of Runway 10C-28C.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with the new runway construction.

Phase 1C involves the following operational impacts:

- *Runway 14R-32L:* Nighttime and possible 24-hour closures will be experienced, as well as an approximate 4,835-foot relocation of the Runway 32L threshold (runway length shortened to approximately 8,165 feet).
- *Runway 14R-32L:* Pending FAA review and acceptance, alternative construction phasing for the South Detention basin may alter severity and timing of operational impacts placed on Runway 14R-32L, possibly increasing the length of runway available.
- *Runway 14R-32L:* This runway will experience interruptions to CAT I and CAT II/III capability during construction. Full instrumentation will be restored to the shortened Runway 32L if feasible.
- *Taxiway T:* Closure and removal of the Taxiway T extension south of Runway 32L is required.
- *Taxiway S:* Nighttime closures of Taxiway S are expected during its reconstruction and widening (north of Taxiway S3).

The following operational assumptions were assumed for Phase 1C:

- CAT II/III capability is available on future Runway 27L (existing 27R), future Runway 27R, and future Runway 28R (existing 27L), as well as on existing Runways 14L and 14R.
- Runway length of 13,000 feet is available on Runway 14R-32L until construction progresses to the point of impacting this runway. At that point, a maximum runway length of 13,000 feet will be available on Runway 10L-28R (assuming completion of the enabling railroad relocation).
- Runway 18-36, currently temporary Taxiway GG, will have the flexibility to be reactivated as a runway until the commissioning of Runway 10C-28C.

7.1.4 Phase 1 – West Satellite Concourse

Phase 1 – West Terminal Complex Satellite Concourse encompasses the construction of the West Satellite Concourse facility, apron and associated taxiways. This satellite concourse is an

independent project in terms of construction phasing, whereas the previously discussed subphases in Phase 1 (i.e., Phase 1A, 1B, and 1C) are sequential. Significant facilities, depicted in Exhibit VII-4, associated with the concourse construction, in addition to supporting taxiway construction, include:

- *Phase WS-1, Airport Surveillance Radar (ASR-9) Relocation:* The existing ASR-9 must be relocated to enable the construction of the West Terminal Complex. Ultimately, two ASR-9s will be located at the Airport, one to serve the north airfield and one to serve the south airfield.
- *Phase WS-2, West Terminal Complex Satellite Concourse and Associated Taxiways:* The West Terminal Complex Satellite Concourse, apron, and associated taxiway access network will be constructed during this phase. The terminal facilities are planned to accommodate a mix of regional jet and/or larger aircraft and appropriate aircraft parking and maneuvering areas. Dual ADG VI taxilanes to the east and west of the satellite concourse will also be constructed.
- *Phase WS-3, Secure (Airport People Mover) APM:* The transfer of passengers and employees between the Terminal Core Area and the new West Satellite Concourse may require the construction of the APM. The planned APM will initiate at an underground station between Concourse E in Terminal 2 and Concourse B in Terminal 1 and will operate to a station under the West Satellite Concourse. Pedestrian tunnels will connect the APM station to these passenger areas. The APM Maintenance Yard and Storage area, located to the west of the future West Terminal Building/Concourse, will be constructed with these two initial stations. Alternatives to an APM may be available to transport these secure passengers. Future terminal programming and design efforts will include the refinement of this issue.
- *Phase WS-4, Service Road Tunnel:* A vehicle service road connecting the Terminal Core Area, the West Terminal Complex, and the Northwest Maintenance Area will require the construction of a tunnel under Taxiway T and Runway 14R-32L. In order to protect future OMP taxiway development in Phase 2 (outbound parallel taxiway to Runway 14R/32L) and meet FAA taxiway Safety Area (SA) requirements, the tunnel will be constructed longer than immediately required.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, and perimeter fencing.

Phase 1 – West Terminal Complex Satellite Concourse involves the following operational impacts:

- *Runway 14R-32L:* Nighttime and possible 24-hour closures are required to accommodate construction of the service road tunnel and two temporary crossover taxiways required to service the West Terminal Complex Satellite concourse prior to Phase 2. The temporary taxiways are located north of Taxiway T2 and adjacent to Taxiway T5.

The following operational assumptions were assumed for Phase 1 – West Terminal Complex Satellite Concourse:

- CAT II/III capability is available on future Runway 27L (existing 27R), future Runway 27R, and future Runway 28R (existing 27L) as well as on Runways 14L and 14R.
- Runway length of 13,000 feet is available on Runway 14R-32L until construction progresses to the point of impacting this runway. At that point, a maximum runway length of 13,000 feet will be available on Runway 10L-28R (assuming completion of the enabling railroad relocation).

7.1.5 Phase 2A – Runway 9R-27L Extension

Phase 2A encompasses the construction of an extension to existing Runway 9L-27R and associated taxiways to produce future Runway 9R-27L. The ultimate measurements of Runway 9R-27L will be 150 feet wide and 11,260 feet long. In addition to the runway and taxiway construction, the major components associated with Phase 2A, depicted in Exhibit VII-5, include:

- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with the new runway construction.

Phase 2A involves the following operational impacts:

- *Runway 14R-32L:* This runway will experience full and nighttime closures.
- *Runway 14R-32L:* This runway will experience CAT I and CAT II/III interruptions (if instrument approaches are available during construction).
- *Runway 27L:* This runway will experience an interruption of CAT II/III approach capability.
- *Runway 9R:* This runway will experience an interruption of CAT I approach capability.

The following operational assumptions were assumed for Phase 2A:

- CAT II/III capability is available on Runways 9L-27R, 10C-28C, and 10L-28R.
- Runway length of 13,000 feet is available on Runway 10L-28R at all times.

7.1.6 Phase 2B – Runway 9C-27C

Phase 2B encompasses the construction of future Runway 9C-27C and associated taxiways that, when activated, will replace existing Runway 14L-32R. The ultimate measurements of Runway 9C-27C will be 200 feet wide and 11,245 feet long. Upon commissioning of future Runway 9C-27C, existing Runway 14L-32R will be decommissioned and partially demolished. In addition to the runway and taxiway construction, the major components associated with Phase 2B, depicted in Exhibit VII-6, include:

- *Phase 2B-1, Northwest Hangar Area Facilities Relocation:* This phase of construction requires that several buildings be demolished and relocated, generally within the Northwest Maintenance Area. The ultimate layout of facilities within this area will be

defined to fit within the reconfigured airfield. Additionally, the existing Scenic Hold Pad will be reconfigured consistent with the new runway construction. The buildings to be relocated include Gate Gourmet Flight Kitchens (Buildings #741 and #742), United Airlines Office and Medical Personnel Building (Building #746), United Airlines Ground Equipment Maintenance (GEM) Building (Building #744), American Airlines Ground Equipment Maintenance (GEM) Building (Building #723), American Airlines Maintenance Hangar #2 (Building #725), ARFF Station #2 (Building #702), American Airlines Fire Pump House (Building #732), United Airlines Hangar 5/5A (Building #750), Ground Run-Up Enclosure (Building #761), ComEd Distribution Building (Building #708), and Sanitary Lift Station (Building #728).

- *Phase 2B-2, Military/General Aviation Area Facilities Relocation:* Construction of the east end of Runway 9C-27C will require relocating existing facilities at the former military site, including the general aviation aircraft apron.
- *Phase 2B-3, Additional North Detention Basin:* The increase in impervious area from the construction of the Runway 9R-27L extension and Runway 9C-27C will require that the construction of an additional north detention basin north of Taxiway U. The capacity of this new basin is estimated to be an approximately 335 acre-foot basin.
- *Phase 2B-4, Service Road Tunnel:* The construction of the taxiway connecting the west ends of Runways 9L-27R and 9C-27C will require a tunnel segment for the Northwest Maintenance Area service road.
- *Phase 2B-5, VOR/DME Relocation:* The construction of the north parallel taxiway to Runway 10C-28C will require the relocation of the VOR/DME.
- *Phase 2B-6, Decommissioning of Runway 14L-32R:* The decommissioning of Runway 14L-32R will occur upon completion and commissioning of Runway 9C-27C.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with the runway extension construction.

Phase 2B involves the following operational impacts:

- *Runway 14R-32L:* Full and nighttime closures will be required. CAT I and CAT II/III interruptions may be experienced (if instrument approaches are available during construction). Displacement or relocation of the Runway 14R threshold may occur.
- *Runway 14L-32R:* This runway will experience full and nighttime closures.
- *Runway 9L-27R:* Intermittent nighttime closures will be required if demolition of north end of Runway 14L-32R occurs.
- *Runway 9R-27L:* Intermittent nighttime closures will be required if demolition of south end of Runway 14L-32R occurs.

The following operational assumptions were assumed for Phase 2C:

- CAT II/III capability is available on Runways 9R-27L, 9L-27R, 10C-28C, and 10L-28R.

- Runway length of 13,000 feet is available on Runway 10L-28R at all times.
- Runway 14L-32R remains operational until the commissioning of Runway 9C-27C.

7.1.7 Phase 2C – Runway 10R-28L

Phase 2C encompasses the construction of future Runway 10R-28L and associated taxiways that, when activated, will replace existing Runway 14R-32L. The ultimate measurements of Runway 10R-28L will be 150 feet wide and 7,500 feet long. Upon commissioning of future Runway 10R-28L, existing Runway 14R-32L will be decommissioned and partially converted to taxiway status. In addition to the runway and taxiway construction, facilities impacted in Phase 2C, depicted in Exhibit VII-7, include:

- *Phase 2C-1, Service Road Tunnels:* The construction of Runway 10R-28L requires tunneling a service road connecting the U.S. Postal Facility to the South Cargo Area. Additionally, a service road will be enclosed in a tunnel beneath the taxiway connecting the west end of Runway 10R-28L and the Runway 10C Hold Pad.
- *Phase 2C-2, Irving Park Road Realignment:* The construction of the Runway 10R-28L will require the relocation of Irving Park Road to the southern edge of the Airport property.
- *Phase 2C-3, South ATCT:* Activation of Runway 10R-28L will require the construction of the south Airport Traffic Control Tower (ATCT). The ultimate location and characteristics of this facility will be subject to ATCT line-of-sight requirements and will be established in coordination with the FAA.
- *Phase 2C-4, Decommissioning of Runway 14R-32L:* The decommissioning of Runway 14R-32L occurs upon completion and commissioning of Runway 10R-28L.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, perimeter fencing, and navigational aids associated with the new runway construction.

Phase 2C involves the following operational impacts:

- Various temporary taxiway closures will allow tie-in of new taxiway segments.
- *Runway 9C-27C and Runway 9R-27L:* Intermittent nighttime closures may be required to accommodate demolition of portions of Runway 14R-32L and Taxiway T.

The following operational assumptions were assumed for Phase 2B:

- CAT II/III capability is available on Runways 9L-27R, 9C-27C, 9R-27L, 10L-28R, and 10C-28C.
- Runway length of 13,000 feet is available on Runway 10L-28R.
- Runway 14R-32L remains operational as a runway until the commissioning of Runway 10R-28L and is converted to a partial taxiway following decommissioning.

7.1.8 Phase 2 – West Terminal Building/Concourse

Phase 2 – West Terminal Building/Concourse entails construction of the West Terminal Building/Concourse in the West Terminal Complex, including the West Terminal Complex ground access/terminal roadways and accompanying parking facilities, as depicted in Exhibit VII-8. Construction of the roadways and West Terminal Building/Concourse will follow commissioning of Runway 10R-28L and decommissioning of Runway 14R-32L.

- *Phase WT-1, West Terminal Building/Concourse:* The remaining facility of the West Terminal Complex will be constructed during this phase. The West Terminal Building/Concourse is planned to accommodate 15 gates and FIS facilities for international arrival operations.
- *Phase WT-2, Parking Facilities:* Parking facilities for the West Terminal Complex will be required to serve the West Terminal Building/Concourse. These facilities will include a short-term parking and rental car structure, commercial vehicle staging areas, and associated roadways. Additionally, employee and long-term parking lots are expected to be constructed south of the West Terminal Complex, in the southwest corner of the Airport, during this phase.
- *Phase WT-3, West Terminal Complex Ground Access:* Ground access/terminal complex roadways supporting the West Terminal Complex, as well as the parking and commercial vehicle staging facilities, will be required to serve the West Terminal Building/Concourse.
- *Phase WT-4, APM Station:* An APM station serving the West Terminal Building/Concourse will be constructed to provide passengers and employees access to the West Terminal Complex Satellite Concourse and the existing Terminal Core Area.
- *Phase WT-5 Landside Detention Basin:* Construction of the West Terminal Complex ground access and parking facilities will create impervious area that will require storm water runoff detention capacity storage. This will be accommodated by constructing a detention basin south of the Airport fuel farm. The basin is planned to store approximately 170 acre-feet.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, and perimeter fencing.

7.1.9 Phase 2 – World Gateway Program

The WGP encompasses the construction of two new terminals, a concourse extension, reconfiguration of taxiways near the concourse extension, and the construction of taxiways south of the Terminal 6 area. The construction of these facilities will occur in response to the demand for additional gate facilities. While anticipated to occur during the Phase 2 implementation period, the WGP components are independent of other Phase 2 projects. Improvements, depicted in Exhibit VII-9, include:

- *Phase WG-1, Terminal 6:* As originally planned, Terminal 6 will accommodate 18 aircraft (eight wide-body gates) on 2,818 linear feet of gate frontage.

- *Phase WG-2, Terminal 4:* As originally planned, Terminal 4 will accommodate 13 aircraft on 2,900 linear feet of gate frontage. The terminal will also include an FIS facility.
- *Phase WG-3, Concourse K Extension:* The extension to Concourse K will provide a net increase of five aircraft parking positions and extra space for holdrooms, concessions, circulation, and airline operations.
- *Phase WG-4, ATS Realignment and Maintenance Facility:* Construction of Terminal 6 will require the relocation of the existing ATS Maintenance Facility. This facility will be relocated to the existing Parking Lot F northeast of the current terminus of the ATS. The ATS will also be realigned to service the new consolidated rental car facility and the O'Hare Metra Transfer Station.
- *Phase WG-5, Parking Facilities:* Increase in parking demand due to the new passenger facilities will warrant the expansion of parking facilities. A new parking facility will be constructed near new Terminal 6 and the Elevated Parking Structure in the Terminal Core Area will be expanded.
- *Phase WG-6, Taxiway Modifications:* The construction of Terminal 6 will require construction of an additional taxiway south of existing Terminal 5. This will provide traffic associated with Terminals 5 and 6 the flexibility to move east-west without interfering with traffic arriving or departing on Runways 28R, 28C, and/or 22L. The modifications involve the eastward extension of existing Taxiway B from Taxiway A15 to the Runway 28R Hold Pad (designated future Taxiway N). In order to sustain the existing vehicular service road between existing Taxiway D and M, additional modification, including the relocation of Taxiway M 100 feet to the south, will be required.
- *Infrastructure Improvements:* Anticipated infrastructure improvements include, but are not limited to, the relocation and expansion of utilities (e.g., storm water collection and conveyance, water lines, electrical, gas, sanitary sewer system, etc.), vehicle service road segments, and perimeter fencing.

Phase 2 – World Gateway Program involves the following operational impacts:

- *Taxiways B, D, and M:* Full and nighttime closures of Taxiways B, D, and M are needed to accommodate construction of future Taxiway N and realignment of Taxiway M.
- *Taxiways A and B:* Nighttime closures are needed to accommodate the reconfiguration of taxiways near the extension of existing Concourse K.

7.2 Implementation Schedule

A preliminary implementation schedule for the various Master Plan projects is contained in **Table VII-1**. This schedule is based on the anticipated durations of the various phases and facility development needs. The planned operational dates necessitate significant coordination of the phases of development defined in the prior sections.

Table VII-1
Preliminary Implementation Schedule

Master Plan Project Component	First Full Year of Operation
OMP Runway Components	
New Future Runway 9L-27R	2007
Extension of Existing Runway 9R-27L (Future Runway 10L-28R)	2009
Relocation of Existing Runway 18-36 (Future Runway 10C-28C)	2009
Extension of Existing Runway 9L-27R (Future Runway 9R-27L)	2013
Relocation of Existing Runway 14L-32R (Future Runway 9C-27C)	2013
Relocation of Existing Runway 14R-32L (Future Runway 10R-28L)	2013
WGP Terminal Components	
Concourse K	2009
Terminal 4	2013
Terminal 6	2013
West Terminal Complex Components	
Satellite Concourse	2009
Terminal Building/Concourse	2013
West Terminal Ground Access	2013

Source: City of Chicago, Department of Aviation
Prepared by: Ricondo & Associates, Inc.

7.3 Capital Development Program Costs

The Master Plan reflects the October 2003 Future ALP and encompasses three capital development programs: OMP, CIP, and WGP. Each capital development program is briefly discussed in this section with its planned capital costs, and major assumptions are shown in **Appendix D**. This section concludes with a review of relevant financial benchmarks over the course of the 20-year planning horizon (i.e., 2003-2022).

7.3.1 OMP Costs

The OMP will be implemented in phases as discussed in Section 7.1, and is expected to be a multi-year process entailing the construction of runways, associated taxiways, and related facilities; relocation of existing facilities; and construction of a new western passenger terminal complex with supporting roadway and parking facilities. The OMP also includes a noise program component to provide sound insulation of eligible schools and single family, owner-occupied homes. The noise program is in addition to the noise mitigation projects included in the Five-Year CIP. The estimated cost of the OMP is approximately \$6.6 billion in 2001 dollars. The first full year of operation for the completed OMP is assumed to be 2013.

Table VII-2 summarizes the cost estimates for each component of the OMP, stated in 2001 dollars.

Table VII-2**OMP Cost Estimates (2001 Dollars)**

	Project Cost (\$000s)
Program Wide Requirements:	
Program Wide Requirements	\$58,277
Preliminary Engineering	43,689
Wetlands Mitigation	24,272
Noise Mitigation (OMP-Phase 1)	220,000
Land Acquisition	339,296
Land/Environmental Contingency	<u>223,301</u>
Subtotal – Program Wide Requirements Costs	\$908,835
Other Program Costs:	
Miscellaneous Operations Budget	\$19,418
Program Contingency	<u>301,660</u>
Subtotal – Other Program Costs	\$321,078
Airfield (Design and Construction/Decommission):	
Runway 9L-27R	\$548,543
Runway 10L Extension	494,175
Runway 10C-28C	908,739
Runway 18-36 Decommission	2,322
Runway 9R Extension	138,032
Runway 9C-27C	642,789
Runway 14L-32R Decommission	1,422
Runway 10R-28L	365,166
Runway 14R-32L Decommission/Taxiway Conversion	<u>110,157</u>
Subtotal – Airfield Costs	\$3,211,345
West Terminal Complex (Design and Construction):	
Western Airside Concourse	\$579,832
Energy Plant	59,307
Fuel Storage and Distribution Improvements	61,168
Western Terminal	918,297
Parking Facilities	<u>108,115</u>
Subtotal – West Terminal Complex Costs	\$1,726,719
On-Airport Circulation (Design and Construction):	
People Mover	\$418,903
Maintenance Facility	<u>13,120</u>
Subtotal – On-Airport Circulation Costs	\$432,023
Total OMP Costs (2001 dollars)	\$6,600,000

Source: Ricondo & Associates, Inc., and O'Hare Partners, based on cost estimate analyses from TOK, LLC. and AOR.
 Prepared by: Ricondo & Associates, Inc.

7.3.2 CIP Costs

The CIP addresses the Airport's facility needs and is essentially a repair and replacement program that ensures the Airport will be able to operate throughout the planning horizon. The 20-Year CIP includes the following types of projects: terminal support improvements, terminal improvements, airfield improvements, H&R system improvements, certain noise mitigation projects, fuel system improvements, and safety and security enhancements. The estimated cost for the 20-Year CIP is \$4.1 billion in escalated dollars, as presented in **Table VII-3**.

Table VII-3

CIP Cost Estimates (Escalated Dollars)

	Project Cost (\$000s)
Five-Year CIP (2003-2007)	
Terminal Support Improvements	\$200,264
Terminal Improvements	425,622
Airfield Improvements	372,198
Heating and Refrigeration	102,761
Noise Mitigation Projects	37,305
Fueling System	98,934
Safety and Security	145,734
Planning and Other Projects	<u>3,333</u>
Subtotal – Five-Year CIP	\$1,386,151
Subtotal – Subsequent Years (2008-2022)	\$2,742,121
Total 20-Year CIP Cost (escalated dollars) ^{1/}	\$4,128,274

1/ Total may not add due to rounding.

Source: City of Chicago, Department of Aviation.
Prepared by: Ricondo & Associates, Inc.

7.3.3 WGP Costs

The WGP was conceived to expand gate capacity through construction of new terminal complexes and enabling projects and provide additional improvements within the Terminal Core Area. In December 2000, the City commenced work on the formulation of WGP Phase 1. In September 2002, in light of changed conditions in the industry and the economy, the City and the airlines agreed to suspend work on the WGP. The City's design-build contractor for the Terminal 6 Complex was directed to complete its 30 percent design submittal and demobilize. All other formulation work was suspended. Work will resume consistent with demand. The WGP is comprised of the following two phases:

- *Phase 1:* (1) construction of a new Terminal 6 Complex (including terminal and concourse facilities, curbside and circulation roads, parking structure, realignment of terminal access roadways); (2) realignment of the ATS; (3) construction of a Concourse K extension; (4) Terminal 2 interior upgrades; and (5) reconfiguration of Taxiway A/B and construction of new Taxiway N.

- *Phase 2:* (1) construction of a new Terminal 4 including an FIS facility and (2) construction of a Terminal 2 FIS facility.

The WGP design included a reconfigured Terminal 2 with a new FIS facility. For the purpose of the Master Plan, this component of the WGP is not included (as discussed in Section 5.2) and the program cost is adjusted accordingly. However, such improvements to Terminal 2 are not precluded from future development.

The estimated cost of the WGP is approximately \$2.6 billion in 1999 dollars, as shown in **Table VII-4**. The first full year of operation is assumed to be 2013.

Table VII-4

WGP Cost Estimates (1999 Dollars)

	Project Cost (\$000s)
Airport-wide, Airfield, and Airside Projects	\$243,830
Terminal 2 FIS Facilities	\$78,680
Terminal 4:	
Enabling Projects	\$99,130
Apron and Fueling	88,680
Roadway/Access/ATS	79,030
Terminal	639,490
Utilities	<u>62,050</u>
Subtotal – Terminal 4	\$968,380
Terminal 6	
Enabling Projects	\$70,560
Apron and Fueling	48,340
Northern Extension	108,980
Parking Structure	114,220
Roadway/Access/ATS	244,450
Tenant Relocations	35,510
Terminal	546,550
Utilities	<u>184,300</u>
Subtotal – Terminal 6	\$1,352,910
Total WGP Cost (1999 dollars)	\$2,643,800

Source: Landrum & Brown; Project components included in OMP Master Plan selected by Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

7.4 Financial Feasibility

This section demonstrates the City's ability to fund the Master Plan development. The implementation schedule contained in Table VII-1 was utilized for the purposes of demonstrating financial viability; however, actual financial strategies and plans will be determined during the implementation process. The following topics are presented in this section:

- Airport Financial Structure
- Financing Plan
- Debt Service
- Operation and Maintenance Expenses
- Fund Deposits
- Non-Airline Revenues
- Airline Revenues
- Airline Cost per Enplaned Passenger
- Summary

7.4.1 Airport Financial Structure

This section discusses Airport accounting practices, including the cost-revenue center structure utilized for airline rate-setting purposes, the requirement governing the issuance of airport revenue bonds by the City, and the rate-setting mechanisms in place at the Airport.

7.4.1.1 Airport Accounting

The Airport is owned by the City and operated by the DOA. The City maintains the books, records, and accounts of the Airport in accordance with generally accepted accounting principles and also as required by the provisions of the Amended and Restated Airport Use Agreement and Terminal Facilities Lease (Airport Use Agreements), City's General Airport Revenue Bond Ordinance (the Bond Ordinance), and Second Lien Indenture and Third Lien Indenture (collectively, the Indentures). The City's fiscal year ends December 31. All capitalized terms herein are as defined in the Airport Use Agreements, Bond Ordinance, and Indentures.

Under the Airport Use Agreements, in order to equitably allocate the net cost of operating, maintaining, improving, and expanding the Airport among the airlines that are signatory to an Airport Use Agreement (the Airline Parties), various physical and functional areas of the Airport are segregated for the purpose of accounting for the operation and maintenance expenses (O&M Expenses), revenues, required fund deposits, and debt service on Airport Obligations. Each such designated area is a Cost-Revenue Center (CRC). The Airport Use Agreements provide that the aggregate of fees, rentals, and charges paid by the Airline Parties will be sufficient to pay for the net cost of operating, maintaining, and developing the Airport (excluding the Land Support Area) including the satisfaction of debt service coverage, deposit, and payment requirements of the Bond Ordinance and Indentures.

Five CRCs in the Airport's financial structure affect the calculation and adjustment of airline fees, rentals, and charges at the Airport. The CRCs are described as follows:

- *Airfield Area.* The Airfield Area includes the aircraft parking areas, runways, taxiways, infield areas, navigational aids, and other areas/facilities required for aircraft taxiing, landing, and takeoff.
- *Terminal Area.* The Terminal Area includes the domestic terminal structures and a designated portion of the H&R Complex.
- *Terminal Support Area.* The Terminal Support Area includes the public parking facilities, roadways, walkways, automobile rental areas, ground transportation system, and O'Hare Hilton Hotel.

- *International Terminal Area.* The International Terminal Area includes the International Terminal and a designated portion of the H&R Complex.
- *Fueling System.* The Fueling System includes the tank farm and all facilities that are part of the Airport's hydrant fueling system.

The revenues and expenses of the Land Support Area, including certain vacant land and air rights and facilities such as air cargo, hangar, flight kitchen, and freight forwarding facilities, are not included in the calculation of airline fees, rentals, and charges.

7.4.1.2 Bond Ordinance and Indentures

The Bond Ordinance was adopted by City Council of the City on March 31, 1983, and specifies the security for bondholders and provides conditions for the issuance of First Lien general airport revenue bonds (GARBs). The Bond Ordinance has been supplemented and amended from time to time. The Indentures, which have also been supplemented from time to time, provide the conditions for the issuance of Second Lien and Third Lien GARBs.

7.4.1.3 Airport Use Agreements

The City's main financial and operational arrangement with the major airline users of the Airport is contained in the Airport Use Agreements, which contain, among other provisions, contractual support of the Airline Parties for bonds and other obligations issued to fund Airport capital improvements. The Airport Use Agreements are in place to formalize the rights and responsibilities of the airline users and the City. As of August 2003, the City has Airport Use Agreements with 14 air carriers including: Air Canada, American, American Eagle, America West, Atlantic Coast, Continental, Delta, FedEx, Northwest, Trans World, United, US Airways, United Parcel Service, and Air Wisconsin (collectively, the Airline Parties).¹ The term of the Airport Use Agreements expires on May 11, 2018. For purposes of this analysis, beyond the lease expiration in 2018, the same terms and conditions as in the Airport Use Agreements are assumed.

Under the Airport Use Agreements, the City can finance Airport Capital Projects with Airport Obligations upon receipt of approval of a Majority-In-Interest (MII) of the Airline Parties.

Each of the CRCs (except the Land Support Area) has allocated to it Revenues, O&M Expenses, Debt Service (including a Debt Service coverage component), and certain Fund Deposit requirements. Net deficits generated in the Terminal Area and the Airfield Area are paid by the Airline Parties in the form of Terminal Area use charges and Landing Fees, respectively. The net cost of the Fueling System is paid in the form of a Fueling System Fee.

The Airport Use Agreements do not provide for any specific fees and charges related to the Terminal Support Area or the International Terminal Area. Any Terminal Support Area net deficit or net surplus is allocated to the Terminal Area and the International Terminal Area. The net cost of the International Terminal Area is paid by the airlines that are signatory to an International Terminal Use Agreement (International Terminal Airline Parties or ITAPs). Airlines or other users of the Airport who are not signatories to an Airport Use Agreement or an International Terminal Use Agreement are assessed Airport fees and charges enacted by City ordinances. The Airline Parties and ITAPs are collectively referred to as the Signatory Airlines.

¹ TWA was acquired by American Airlines in April 2001 and is operated as American Airlines.

7.4.2 Financing Plan

Funding sources for the Master Plan include the following:

- Federal grants-in-aid under the Airport Improvement Program (AIP)
- Passenger facility charges (PFCs)
- General airport revenue bonds (GARBs)
- Third-party financing

The actual amount of funding available from certain of these sources will depend primarily on future levels of aviation activity at the Airport, future federal reauthorizations, and future airline approvals. **Table VII-5** shows the estimated amount of Master Plan funding sources, which are described in the following paragraphs.

Table VII-5

Estimated Sources of Funds

	Sources of Funds (Percentages)						
	FAA AIP Grants		Passenger Facility Charge		Airport Revenue Bonds	Third-Party Financing ^{2/}	
Program	Entitlement	Discretionary ^{1/}	Pay-As-You-Go	Bond Funds			Total ^{3/}
OMP	1%	8%	2%	20%	59%	10%	100%
CIP	0%	6%	11%	30%	54%	0	100%
WGP	0	0	0	0	78%	22%	100%

1/ Includes discretionary LOI funds, discretionary noise funds, and assumed funding for safety and security projects.

2/ Assumes that 33.3 percent of terminal project costs are eligible for third-party financing resulting in 10 percent of OMP total project cost and 22 percent of WGP total project cost.

3/ Totals may not add due to rounding.

Source: Capital Development Program OMP and WGP – Fullerton & Friar, Inc.; Capital Development Program CIP – City of Chicago and Fullerton & Friar, Inc.

Prepared by: Ricondo & Associates, Inc.

7.4.2.1 FAA AIP

The Airport and Airway Improvement Act of 1982 (the Act) authorizes the AIP. The Act authorized funding for the AIP from the Airport and Airway Trust Fund for airport development, airport planning, and noise compatibility planning and programs. The Airport and Airway Trust Fund is funded through several aviation user taxes on airline fares, air freight, and aviation gasoline.

Under the AIP, the Airport receives annual entitlement grants based on numbers of enplaned passengers and cargo tonnage and is eligible to receive discretionary grants. AIP grants may be used for land acquisition, noise mitigation, airfield improvements, airport roadways, public areas of terminal projects, and safety and security systems and equipment. In the award of discretionary funds, the FAA gives priority to projects that enhance airport capacity where capacity constraints have been identified.

On December 12, 2003, President Bush signed into law FAA reauthorization legislation known as Vision 100 – Century of Flight Authorization Act of 2003. Under the reauthorization, the AIP has been extended four federal fiscal years to September 30, 2007. The funding levels for AIP

investment are \$3.4 billion in the first year, increasing by \$100 million per year in each subsequent year.

This financial analysis assumes that federal programs similar to the AIP continue throughout the planning horizon.

7.4.2.2 PFCs

Since 1991, PFCs have been authorized by Title 14 of the Code of Federal Regulations, Part 158, and the PFC program administered by the FAA. PFCs are collected from qualified passengers to fund eligible projects. Since April 1, 2001, a PFC of up to \$4.50 per qualified enplaned passenger, less an \$0.08 airline processing charge, can be imposed by an airport operator. The DOA currently collects a \$4.50 PFC from qualified enplaned passengers using O'Hare.

PFCs may be used on a pay-as-you go basis or leveraged to support PFC bonds. PFC bonds can be issued either as stand-alone PFC bonds or double-barrel PFC bonds, which are backed by both a pledge of PFCs and general airport revenues. As of January 1, 2004, the Airport has outstanding approximately \$879 million of First and Second Lien PFC stand-alone bonds. The Airport plans to issue double-barrel PFC bonds in the future to finance project costs.

Projects that are eligible for PFC funding are those that:

- Preserve or enhance the capacity, safety, or security of the national air transportation system;
- Reduce noise or mitigate noise effects; or
- Furnish opportunities for enhanced competition between or among air carriers.

The \$3.00 PFC was made available with the requirement that an airport operator forfeit 50 percent of its AIP passenger entitlement grants. Almost 10 years later, the maximum PFC was increased to \$4.50 with the requirement to forfeit 75 percent of passenger entitlement grants. Therefore, this financial analysis assumes that the PFC program increases to \$6.00 in January 2011. With the increase of the PFC from \$4.50 to \$6.00 consistent with historical forfeiture percentages associated with AIP entitlement grants, this analysis assumes that all O'Hare AIP passenger entitlements are required to be forfeited.

7.4.2.3 General Airport Revenue Bonds

As of January 1, 2004, the Airport has outstanding approximately \$3.2 billion of First Lien, Second Lien, and Third Lien GARBs. The debt service associated with the issuance of GARBs is allocated to appropriate cost centers and included in airline rates and charges. Issuance of GARBs requires approval under the current Airport Use and Lease Agreement. The Airport plans to issue additional GARBs to finance project costs and refund existing debt.

7.4.2.4 Third-Party Financing

The City intends to fund selected portions of the planned new terminal facilities at the Airport (i.e., WGP and West Terminal Complex) with third-party financing, which may or may not include special facility debt. This approach is consistent with the City's use of special facility debt to fund portions of the existing terminal facilities at the Airport.

7.4.3 Debt Service

Table VII-6 presents total projected Net Debt Service Requirements, including existing debt service and estimated future debt service, less savings from future refundings and restructurings. All amounts reflect certain adjustments required to be made under the Airport Use Agreements for the purpose of calculating airline fees, rentals, and charges.

Table VII-6

Projected Annual Net Debt Service Requirements (\$000s)

	Short Term					Intermediate Term	Long Term
	2003	2004	2005	2006	2007	2012	2022
Existing Debt Service	\$132,688	\$179,800	\$198,386	\$198,102	\$201,611	\$217,513	\$43,865
Future Debt Service Less Savings from Future Refundings and Restructurings	<u>0</u>	<u>(6,775)</u>	<u>13,340</u>	<u>23,152</u>	<u>45,522</u>	<u>462,790</u>	<u>974,028</u>
Total Projected Net Debt Service Requirements ^{1/}	\$132,688	\$173,025	\$211,726	\$221,255	\$247,134	\$680,303	\$1,017,894

1/ Totals may not add due to rounding.

Source: Fullerton & Friar, Inc.

Prepared by: Ricondo & Associates, Inc.

Existing debt service includes debt service on all outstanding GARBs and certain Special Facility Revenue Bonds to be included in the Airline Parties' rates and charges under the Airport Use Agreements.

Estimated future debt service is based on the following allowances and assumptions:

- 30-year maturities
- 6.0 percent interest rate
- Capitalized interest for the OMP and WGP
- No capitalized interest for the CIP
- Funding of the Debt Service Reserve Fund
- Debt service coverage of 1.10 times debt service
- Allowances for costs of issuance (underwriters' discount, bond insurance, and other costs)

Estimated savings from future refundings and restructurings are based on the following allowances and assumptions:

- 30-year maturities with amortization beginning January 1, 2019
- 6.0 percent interest rate
- No capitalized interest
- Surety for the Debt Service Reserve Fund
- Allowances for the costs of issuance (underwriters' discount, bond insurance, and other costs)

Net Debt Service Requirements are allocated to CRCs on the basis of the project costs financed with such bonds.

7.4.4 Operation and Maintenance Expenses

O&M Expenses are the costs associated with operating and maintaining the Airport. O&M Expenses are categorized into multiple expense categories as follows:

- *Personnel Expenses* – Salaries, wages, and employee benefits for Airport staff as well as an allocation of personnel costs from other City departments that support Airport operations such as Purchasing, Finance, and Corporation Counsel.
- *Repairs and Maintenance* – Costs for outside contractors that provide ramp repair, taxiway painting, outside janitorial for terminals, heating and air conditioning, trash removal, escalator/elevator maintenance, and other miscellaneous repairs.
- *Energy* – Gas, water, electricity, and fuel oil required to operate the Airport.
- *Materials and Supplies* – Deicing fluid, office supplies, cleaning supplies, keys and locks, and other general maintenance supplies for the Airport.
- *Engineering and Professional Services* – Fees for specialized engineering, legal, and other technical services.
- *Other Operating Expenses* – Equipment and property rental; machinery, vehicles, and equipment; and miscellaneous (administrative expenses, telephone, and bad debt expenses).

Table VII-7 presents projected O&M Expenses by category for the planning horizon. As shown in Appendix D, future O&M Expenses are projected based on the type of expense, and are based on an analysis of historical O&M Expenses, projections of future inflation rates, and impacts related to the future capital development programs and ensuing increase in operations. Increases due to additional operations include maintenance of new runways, taxiways, and facilities associated with the OMP, and maintenance of new terminal facilities associated with the WGP. From 1993 to 2002, O&M Expenses increased at a compounded annual growth rate of 4.7 percent. For the 20-year planning horizon, the assumed O&M compounded annual growth rate is 6.4 percent, due to the aforementioned impacts from inflation (approximately five percent in aggregate), capital development programs, and increased operations.

7.4.5 Fund Deposits

One of the components of the fees, rentals, and charges paid by the Airline Parties under the Airport Use Agreements and the ITAPs under the International Terminal Use Agreements are annual required deposits into the O&M Reserve Fund, the Maintenance Reserve Fund, and the Special Capital Projects Fund. The O&M Reserve Fund deposit requirement is the amount necessary to increase the amount on deposit to three months of estimated O&M Expenses for the fiscal year. The Maintenance Reserve Fund deposit requirement is an amount equal to the lesser of \$1.5 million or the amount required to bring the deposit therein to \$3.0 million. Moneys in the Special Capital Projects Fund shall be used only as a source for Special Capital Projects Expenditures approved by an MII.

7.4.6 Non-Airline Revenues

Non-Airline Revenues are those revenues generated at the Airport other than by airline fees and charges. Revenues from concessions include revenues derived from restaurants and gift shops in the terminal buildings and all other Airport associated businesses outside the main terminals that cater to

the Airport such as automobile parking, automobile rental, and bus service. The majority of Non-Airline Revenues are comprised of revenues from automobile parking, restaurant, and automobile rental.

Table VII-7**Projected Operation and Maintenance Expenses (\$000s)**

	Short Term					Intermediate Term	Long Term
	Budget	Budget	Projected			Projected	Projected
	2003 ^{1/}	2004	2005	2006	2007	2012	2022
Personnel Expenses	\$168,140	\$172,437	\$185,127	\$195,446	\$209,737	\$292,348	\$570,943
Repairs and Maintenance	33,393	33,846	35,708	37,672	40,406	57,819	120,705
Energy	22,386	22,903	23,934	25,011	26,337	35,271	67,597
Materials and Supplies	11,762	11,706	11,940	12,179	12,863	15,856	24,905
Engineering and Professional Services	33,131	35,377	37,323	39,376	41,524	54,949	97,907
Other Operating Expenses	<u>58,196</u>	<u>61,364</u>	<u>64,444</u>	<u>67,679</u>	<u>71,983</u>	<u>97,478</u>	<u>184,248</u>
Subtotal O&M Expenses ^{2/}	\$327,008	\$337,634	\$358,476	\$377,362	\$402,851	\$553,720	\$1,066,305
Less: Land Support Area	<u>5,158</u>	<u>4,883</u>	<u>5,038</u>	<u>5,308</u>	<u>5,573</u>	<u>7,120</u>	<u>11,617</u>
Total O&M Expenses Less Land Support Area ^{2/}	\$321,851	\$332,751	\$353,438	\$372,054	\$397,278	\$546,600	\$1,054,688

1/ Budget as adjusted as of September 1, 2003.

2/ Totals may not add due to rounding.

Source: 2003 – City of Chicago, 2004-2022 – Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

Projections of Non-Airline Revenues are presented in **Table VII-8**. Projections of future Airport revenues are based upon a review of historical trends, future activity levels, and inflationary impacts. As shown in Appendix VII-1, revenue projections are created by applying growth rates specific to each revenue category. From 1993 to 2002, the compounded annual growth rate of non-airline concession revenues (which represent approximately 90 percent of Non-Airline Revenues) was 6.1 percent. For the 20-year planning horizon, the assumed compounded annual growth rate is 6.5 percent, due to the aforementioned inflation and increase in enplanements.

7.4.7 Airline Revenues

Signatory Airline Revenues are revenues generated from fees, rentals, and charges under the Airport Use Agreements and the International Terminal Use Agreements including landing fees, terminal rentals, terminal use charges, and fueling system fees. Non-Signatory Airline Revenues represent revenues from airlines that are not parties to an Airport Use Agreement or an International Terminal Use Agreement. These revenues are derived as a function of rentals, fees, and charges of the Airline Parties, based on O&M Expenses, Debt Service, and Fund Deposits.

Table VII-8Projected Non-Airline Revenues (\$000s)^{1/}

	Short Term					Intermediate Term	Long Term
	Budget	Budget	Projected			Projected	Projected
	2003 ^{2/}	2004	2005	2006	2007	2012	2022
Non-Airline Revenues:							
CICA-TEC and Other Rentals	\$8,611	\$8,123	\$7,272	\$6,392	\$6,488	\$6,990	\$8,112
Concessions:							
Auto Parking—Net of Tax	\$80,819	\$79,536	\$94,943	\$102,487	\$110,548	\$159,833	\$321,476
Auto Rental	15,510	16,267	19,048	20,170	21,342	28,028	46,511
Restaurant	19,740	22,426	26,260	27,807	29,423	38,640	64,120
News and Gifts	7,792	8,288	9,705	10,277	10,874	14,281	23,698
Other ^{3/}	<u>22,073</u>	<u>25,132</u>	<u>27,758</u>	<u>29,125</u>	<u>30,550</u>	<u>38,615</u>	<u>60,538</u>
Subtotal ^{4/}	\$145,935	\$151,648	\$177,714	\$189,866	\$202,737	\$273,396	\$516,343
Reimbursements and Other	7,397	7,769	7,717	7,944	8,177	9,453	12,635
Total Non-Airline Revenues ^{4/}	\$161,942	\$167,541	\$192,703	\$204,202	\$217,403	\$295,839	\$537,090

1/ Excludes Land Support Area per the Airport Use Agreements.

2/ Budget as amended as of September 1, 2003.

3/ Includes rentals and fees from other concessions such as hotel rental, bus service, display advertising, public pay phones, other specialty shops, and duty free.

4/ Totals may not add due to rounding.

Source: 2003 – City of Chicago, 2004-2022 – Ricondo & Associates, Inc.
Prepared by: Ricondo & Associates, Inc.

7.4.8 Airline Cost per Enplaned Passenger

Table VII-9 presents the average airline cost per enplaned passenger for the three planning periods. The airline cost per enplaned passenger is calculated by dividing the Total Airline Requirement by the number of enplaned passengers at the Airport. Based on information as of September 1, 2003, the estimated airline cost per enplaned passenger at the Airport in 2003 is \$9.24 in 2003 dollars. By the end of the planning period in 2022, the airline cost per enplaned passenger at the Airport is projected to be \$15.53 in 2003 dollars.

7.4.9 Summary

It is difficult to compare the Airport's comprehensive capital development program for the next 20 years to that of other airports, because the information about a specific airport's development program may not be readily available nor at the same level of detail as is available for the Airport. To place the magnitude of the Airport's development program in context, the following list represents information available about selected airports and their respective planned capital development. In many cases, the duration of the capital development is shorter than the Airport's timeframe for the construction of OMP and WGP. As the following descriptions represent, many large-hub airports are anticipating undertaking capital development in excess of \$1 billion each. For comparative purposes, the Airport's capital development related to expansion and/or capacity-related projects (i.e., including OMP and WGP but excluding CIP) better reflects the type of capital

development that is comparable to development programs identified for these other large-hub airports. The Airport's capital development cost per enplaned passenger is shown on **Exhibit VII-10** and represents the ratio of the cost of the OMP and WGP to fiscal year 2002 enplaned passengers.

Table VII-9

Projected Airline Cost Per Enplaned Passenger (\$000s) for Fiscal Years Ending December 31

	Short Term					Intermediate	Long Term
	Estimated	Estimated	Projected			Term	
	2003	2004	2005	2006	2007	Projected	Projected
						2012	2022
Net Signatory Airline Requirement	\$292,669	\$325,501	\$367,775	\$383,302	\$421,201	\$914,764	\$1,519,556
Non-Signatory Airline Requirement	<u>8,931</u>	<u>9,844</u>	<u>9,764</u>	<u>10,378</u>	<u>12,045</u>	<u>23,241</u>	<u>42,014</u>
Total Airline Requirement	\$301,600	\$335,345	\$377,539	\$393,680	\$433,246	\$938,005	\$1,561,570
Total Projected Enplaned Passengers	32,628	37,735	38,825	39,914	41,003	46,450	57,356
Total Airline Cost Per Enplaned Passenger	\$9.24	\$8.89	\$9.72	\$9.86	\$10.57	\$20.19	\$27.23
2003 Constant Dollars ^{1/}	\$9.24	\$8.63	\$9.17	\$9.03	\$9.39	\$15.48	\$15.53

1/ Inflation rate assumed at 3.0 percent.

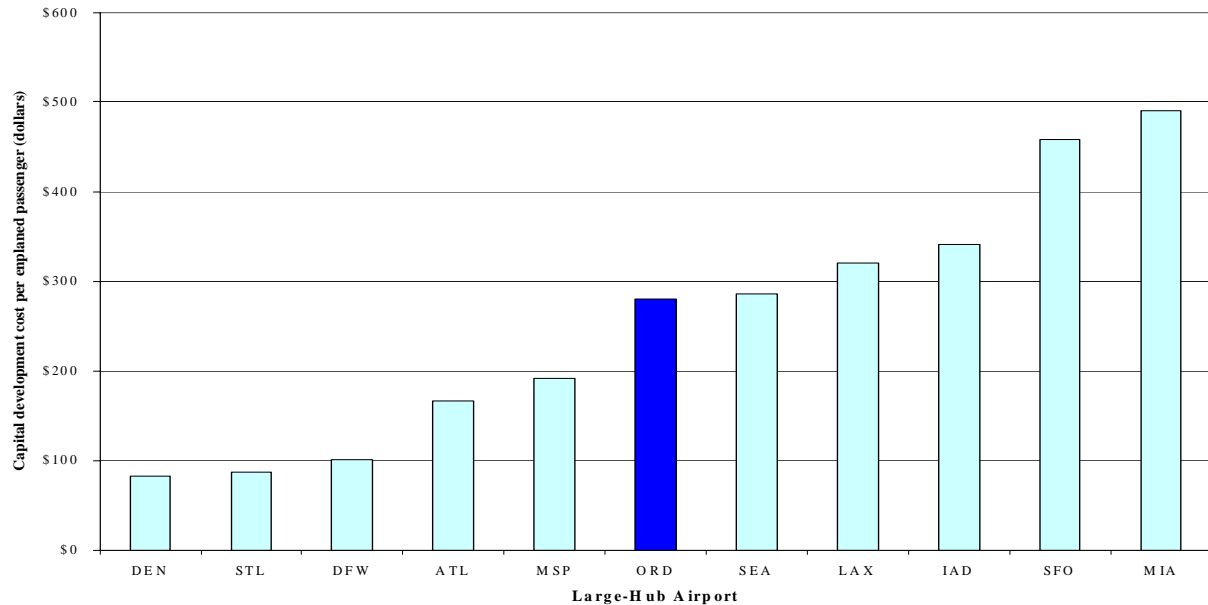
Source: 2003 Total Projected Enplaned Passengers – Ricondo & Associates, Inc.; 2004-2015 Total Projected Enplaned Passengers – FAA, 2001 Terminal Area Forecast; and 2016-2022 Total Projected Enplaned Passengers – Ricondo & Associates, Inc. as extrapolated from the FAA, 2001 Terminal Area Forecast. All FAA TAF enplaned passengers stated in FFY (ending September 30) have been converted to enplaned passengers stated in Airport Fiscal Years (ending December 31).

Prepared by: Ricondo & Associates, Inc.

As published primarily in Official Statements, certain information regarding planned capital development programs (CDP) and an airport's fiscal year 2002 enplanement levels at several large-hub airports is presented below. The capital development cost per enplaned passenger for each airport has been calculated using these CDP amounts and enplanement levels and is shown in Exhibit VII-10. Again, it must be emphasized that these other development programs do not necessarily reflect the master planning level of detail as is presented in the Airport's capital development program.

Hartsfield-Jackson Atlanta International Airport

- 38.6 million enplaned passengers
- CDP (through 2010) cost: \$6.4 billion
- Capital development cost per enplaned passenger: \$166
- Projects: Fifth runway, other airfield projects, and terminal-related projects
- Source: Official Statement dated October 11, 2002

Exhibit VII-10**Capital Development Cost per Enplaned Passenger**

Source: Various Airport Documents.
 Prepared by: Ricondo & Associates, Inc.

Los Angeles International Airport

- 28.1 million enplaned passengers
- CDP (through 2015) cost: \$9.0 billion
- Capital development cost per enplaned passenger: \$320
- Projects: Roadway and circulation improvements and safety enhancements, new ground transportation facilities including an automated people mover, and realignment of runways for increased runway separation
- Source: Official Statement dated February 18, 2003 and www.laxmasterplan.org

Dallas/Fort Worth International Airport

- 25.8 million enplaned passengers
- CDP (2000 to 2005) cost: \$2.6 billion
- Capital development cost per enplaned passenger: \$101
- Projects: New international terminal, runway extensions, other airfield projects, and terminal projects - Other future “demand driven” projects, such as an eighth runway, are to follow.
- Source: Official Statement dated April 30, 2003

Denver International Airport

- 17.8 million enplaned passengers
- CDP (2003 through 2008) cost: \$352.6 million in planned projects.
- In addition, approximately \$1.1 billion of “demand responsive” projects.
- Capital development cost per enplaned passenger: \$82

- Projects: Construction of sixth runway, replacement of aircraft loading bridges, construction of an additional parking structure, and other road, parking, ground transportation, terminal, and concourse improvements
- Source: Official Statement dated April 24, 2003

Minneapolis-St. Paul International Airport

- 15.6 million enplaned passengers
- CDP (through 2010) cost: \$3.0 billion
- Capital development cost per enplaned passenger: \$192
- Projects: New north-south runway and construction and expansion of terminal buildings and associated projects
- Source: Official Statement dated June 19, 2003

San Francisco International Airport

- 15.5 million enplaned passengers
- CDP (Near-term master plan plus 1995 to 2005 CIP): \$7.1 billion (\$2.4 billion near-term master plan plus \$4.7 billion CIP)
- Capital development cost per enplaned passenger: \$458
- Projects: New international terminal complex with near-term master plan and other 1995-2005 CIP projects
- Source: FitchRatings, "U.S. Airports Debt 2002-2006: A Post September 11 Survey," April 2002

Miami International Airport

- 14.7 million enplaned passengers
- CDP (1995 to 2005) cost: \$7.2 billion comprised of \$4.8 billion for Phase 1 and \$2.4 billion for Phase 2
- Capital development cost per enplaned passenger: \$490
- Projects: Construction of a fourth runway, terminal expansion project, and other terminal projects
- Phase 2 projects are triggered by demand
- Source: Official Statement dated May 16, 2003

Seattle-Tacoma International Airport

- 13.3 million enplaned passengers
- CDP (2003-2012) cost: \$3.8 billion
- Capital development cost per enplaned passenger: \$286
- Projects: Construction of a third runway and terminal projects
- Source: Official Statement dated July 30, 2003

Lambert-St. Louis International Airport

- 12.6 million enplaned passengers
- CDP cost: \$1.1 billion
- Capital development cost per enplaned passenger: \$87
- Projects: New parallel runway
- Source: Official Statement dated February 5, 2003

Washington Dulles International Airport

- 8.5 million enplaned passengers

- CDP (2001 through 2011): \$2.9 billion
- Capital development cost per enplaned passenger: \$341
- Projects: Terminal-related projects, passenger conveyance, and a new fourth runway
- Source: Official Statement dated August 15, 2002

Although it is difficult to compare details of each airport's capital development program, the cost of O'Hare's expansion and capacity-related capital development program appears reasonable on a capital cost per enplaned passenger basis compared to other large-hub airports undertaking large capital development programs.

The financial analysis presented in this section incorporates numerous assumptions with regards to the availability of various funding sources to undertake the planned capital development at the Airport. Achievement of the projected costs per enplaned passenger presented in this analysis is contingent on, in part, the ability of the sponsor to generate the levels of funding sources identified in this section and on continued support for capital development from the airlines serving the Airport.